

#### **DESIGN/BUILD PROJECT**

Interstate 69 New Construction
From I-164 to SR 68
IR-29023





- I-69 Evansville-to-Indianapolis Corridor
- South Segment of Section 1
- From Existing I-164 / I-64
   Interchange to just North of SR 68
- Total Length = 1.7 miles



### General Scope

- Embankment Construction
- Pavement Construction
- Ramp Modifications @ Int. I-164/I-64
- Ramp Construction @ Int. SR 68
- New Bridge Construction
  - Account for Future Stage II Lane Configurations
- Local Road Improvement
- Drainage Improvement
- Mitigation Site Construction



#### **DESIGN/BUILD PROJECT**



- INTENT OF CONTRACT
  - Provide complete design, construction and completion of work
  - Plans define Department's expectations
  - Changes subject to Department review and approval (witness & hold points)

- DESIGN OF THE PROJECT
  - Conform to current Department and AASHTO standards, practices, policies, guidelines and specifications
  - Prequalification & pre-approval of consultants required
  - Multiple Consultants allowed 1 Prime
  - Identify & resolve any remaining utility conflicts

- GENERAL INSTRUCTIONS
  - Bidder shall be prequalified Contractor
  - Submit all questions during bidding phase to Tom Seeman, INDOT Design/Build Project Manager by e-mail: tseeman@indot.IN.gov
  - Existing plans available on CD

- PROPOSAL SUBMITTAL REQUIREMENTS
  - Technical Proposal
    - Preliminary Plans (8 Sets 11"x17")
    - Project Schedule (4 Copies)
    - Traffic Control Plan (4 Copies)
    - Electronic Files (.dwg or .dgn, & .pdf 1 CD)
  - Cost Proposal (Requires 80% Score)
    - Lump Sum Bid for Design/Build
    - Schedule of Values

- TECHNICAL PROPOSAL
  - Preliminary Plans 75 pts.
    - Adherence to the scope of project
    - Must be stamped and signed by PE
  - Project Schedule 15 pts.
    - Design & Construction milestone activities
    - Witness & Hold points incorporated
    - Controlling items of work

- TECHNICAL PROPOSAL (Cont'd)
  - Traffic Control Plan 10 pts.
    - Maintenance & protection of traffic
    - Ramp & local road closures
    - Construction operation phasing
    - Construction signage
    - Access for equipment
    - Coordination procedures w/local agencies

- AWARD OF CONTRACT
  - Review of Technical Proposal (100 pts.)
  - Technical Proposals with a score of less than 80 points will not be considered
  - \$100,000 stipend for score of 80 or more
  - Contract awarded to lowest responsive and responsible bid

- PROFESSIONAL LIABILITY INSURANCE
  - Project specific policy
  - Consultant is named insured
  - Proof of insurance required prior to NTP

# **Project Schedule**

- Field Checks
- Submittal of design firms
  - On or Before

Feb 13 & 14, 2008

Feb 25, 2008

# Project Schedule

Design Alternate meetings (2 max)

No later than

March 14, 2008

- Technical Proposal Due

March 24, 2008

Cost Proposals/Bid Letting

April 2, 2008

- I-69 Groundbreaking Ceremony

TBA

Contract Completion

July 2, 2010

- Final As-Builts

August 2, 2010

# Design Alternate Meetings

- Maximum of 2 each
- Agenda
- Alternates must not necessitate a revision to Scope of Services, Special Provisions, or Specifications
- Maintenance of traffic exempt
- Approval by the Department required
- Confidential

- Design
  - Plan submittals
  - Design calculations
  - Foundation review
  - Drainage calculations
  - Rule 5 permit
  - Shop drawings
  - Alternate maintenance of traffic

- Construction
  - Quality Control Plan for PCCP, HMA, Erosion Control
  - INDOT inspections
  - Pre-paving conference

- Design
  - Released through INDOT Design/Build Project Manager (Tom Seeman)
- Construction
  - Released through Project Engineer or his representative

 WORK ON ANY ITEM SHALL NOT BEGIN UNTIL SIGNED AND STAMPED PLANS FOR THAT ITEM ARE POSTED TO "RELEASED FOR CONSTRUCTION" FOLDER IN VIECON

 Provide detailed schedule of pay items in Estimator format, complete with item codes at start of contract

 Pay items to conform to applicable methods of measurements, pay items, and pay units

 Level 1 Checklist required for any items revised for the Technical Proposal or Construction Plans

 Level 1 Checklist required for all Maintenance of Traffic items by phase for Construction Plans

#### **Final Documents**

- (1 complete package)
  - As-built plans with tracings
  - Electronic files in .dwg or .dgn, & .pdf, & .tiff
  - Engineering reports
  - Design calculations
  - Shop drawings
  - Test results
  - Daily reports
  - Final as-built quantities in Estimator format by Des.
     No. with calculations



#### **DESIGN/BUILD PROJECT**

Scope of Work



- DESIGN CRITERIA
   I-69 Corridor Design Criteria
  - Provide consistency for all sections of I-69 from Evansville to Indianapolis
    - I-69: Interstate Freeway, Rural, 70 mph
    - SR 68: 4R, State Rural Collectors, 2-lane, 60 mph
    - SR 57\*: 3R, Rural Local Roads, 2-lane, 55 mph

<sup>\*</sup> New Construction

- DESIGN CRITERIA (Cont'd)
  - S-Lines: Rural Local Roads, 2-lane
    - Relocated Nobles Chapel Rd (Warrick/Gibson Co.)\*, 30 mph
    - CR 1250 S in Gibson County (West of I-69), 30 mph
    - CR 1250 S (East of I-69), 20 mph (Near Gas Station)
    - Local Service Road 3\*^, 20mph
    - CR 525 E, 30 mph
    - Wheatonville Road Cul-De-Sac, 20 mph
    - Old SR 57<sup>^</sup>, 25 mph

^Low-Speed Urban Streets Criteria for Superelevation can be used

<sup>\*</sup>New Construction

- DESIGN CRITERIA (Cont'd)
  - Interchange Ramps, IDM Ch 48
    - I-64 WB to I-69 NB Diagonal Ramp, 50 mph
    - I-69 SB to I-64 WB Diagonal Ramp, 55 mph
    - SR 68 Interchange Ramps, 60 mph/40mph
  - Clear Zone Values
    - Follow "Clear Zone Values for I-69 Design/Build" in Special Provision.

- DESIGN CRITERIA (Cont'd)
  - Stage II
    - Lane Configurations shown in Bridge Plans for information only
      - Nobles Chapel Road
        - » Future System Interchange Configuration w/ CD Lanes
      - SR 68
        - » Future Service Interchange Configuration w/ Loops
    - ALL PROPOSED ELEMENTS ON I-69 SHALL BE DESIGNED TO ACCOMMODATE FUTURE STAGE II LANE REQUIREMENTS, ESPECIALLY MINIMUM VERTICAL CLEARANCE

- ROADWAY REQUIREMENTS
  - I-69 Typical Section (NB & SB)
    - Two 12-foot lanes
    - Inside Shoulder
      - 4-foot paved (6' originally shown)
      - Slotted Drain Not Required
      - Cross Slope of 2% (originally 4%)
    - 10-foot paved outside shoulder
    - 84-foot median

- ROADWAY REQUIREMENTS (Cont'd)
  - I-69 Pavement Section:
    - 14.5" QC/QA PCCP on
    - 9" Subbase for PCCP on
    - Type IA Subgrade Treatment
  - D-1 contraction joints all new QC/QA PCCP
  - PCCP coring and profilograph
  - Underdrains required

- ROADWAY REQUIREMENTS (Cont'd)
  - Interchange Ramp Section:
    - 11" QC/QA PCCP on
    - 9" Subbase for PCCP on
    - Type IA Subgrade Treatment
  - D-1 contraction joints all new QC/QA PCCP
  - PCCP coring and profilograph
  - Underdrains required
  - Construct only south half of SR 68 Interchange

- ROADWAY REQUIREMENTS (Cont'd)
  - SR 68 Pavement Section:
    - 10" QC/QA PCCP on
    - 9" Subbase for PCCP on
    - Type IA Subgrade Treatment
  - D-1 contraction joints all new QC/QA PCCP
  - PCCP coring and profilograph
  - Underdrains required
  - HMA Shoulder Section

- ROADWAY REQUIREMENTS (Cont'd)
  - SR 57 Pavement Section
    - 165 #/syd. QC/QA-HMA, 3, 70, Surface 9.5mm on
    - 275 #/syd. QC/QA-HMA, 3, 70, Interm. 19.0 mm on
    - 1100 #/syd. QC/QA-HMA, 3, 64, Base 25.0 mm on
    - Type 1A Subgrade Treatment
  - HMA profilograph
  - SR 57 Shoulder Section
    - 330 #/syd. QC/QA-HMA, 3, 70, Surface 9.5 mm w/ corrugations on
    - 9" Compacted Aggregate No 53 Base on
    - Type IA Subgrade Treatment

- ROADWAY REQUIREMENTS (Cont'd)
  - SR 57 Pavement Section:
    - Revision to Legend "R1":
      - Milling, Asphalt, 4 in
      - 165 lbs/syd., QC/QA-HMA, 3, 70, Surface 9.5mm on
      - 275 lbs/syd.(min), QC/QA-HMA, 3, 70, Interm. 19.0mm

- ROADWAY REQUIREMENTS (Cont'd)
  - S-Line & Cul-De-Sac Pavement Section:
    - 165 #/syd. HMA, Surface, Type A on
    - 275 #/syd. HMA, Interm., Type A on
    - 8" Compacted Aggregate, No 53, Base on
    - Type III Subgrade Treatment
  - S-Line & Cul-De-Sac Shoulder Section:
    - 12" Compacted Aggregate, No 53

- ROADWAY REQUIREMENTS (Cont'd)
  - Follow Recommendations in Geotechnical Evaluation Report
    - Embankment Construction
    - Subsurface Soil Modifications
      - Rammed Aggregate Piers
      - Wick Drains
    - Geotechnical Monitoring Instruments
      - Settlement Plates
    - Alternate Designs must be approved by INDOT

- ROADWAY REQUIREMENTS (Cont'd)
  - All removed concrete pavement to incorporate into project
  - Recycled asphalt pavement allowed for shoulder wedge only
  - Monuments & Right-of-Way markers required
  - Farm Field and Chain Link Type Fence required
  - Mailboxes required

- ROADWAY REQUIREMENTS (Cont'd)
  - Preliminary Profile Grade
    - Meet Vertical Clearances
      - Bridges
        - » Nobles Chapel Road
        - » SR 68
      - Accommodate future Stage II Lane Requirements
    - Drainage Structures
      - Minimum Cover
    - No Change in Profile Grade near Tepe Road Overpass

- ROADWAY REQUIREMENTS (Cont'd)
  - Excess Suitable Materials
    - From
      - Proposed Construction of I-69 Project
      - Mitigation Site
    - Used
      - Proposed Embankment fill for Future I-69 North of SR 68

- BRIDGE GENERAL REQUIREMENTS
  - Structures shall accommodate future Stage II lane requirements for:
    - Vertical Clearance
    - Horizontal Clearance
  - All Stage II Bridge Plans for information only
  - Structures are sized from approved hydraulics
    - Can't be altered without approval for revised hydraulics
  - Steel bridges shall utilize painted or weathering steel beams
  - Seismic provisions shall be incorporated in design

- NEW BRIDGE STRUCTURES
  - Design/Builder will follow the AASHTO LRFD Bridge Design Specifications, Customary US Units, 4<sup>th</sup> Edition with 2008 Interim Revisions
    - HL-93 Loading
    - Seismic Loading
  - Bridge foundations shall be designed in Accordance with AASHTO LRFD Specifications:
  - Piles shall be spaced at least six feet apart and pile tips are required
  - Integral end bents shall be used
  - Surface seal and no masonry coating

- NEW BRIDGE STRUCTURES (Cont'd)
  - If walls are utilized, they must be built for the future stage II expansion
  - Bridge sized to provide clear zone for current lane configurations
  - For Stage II, the end bent may be located within the clear zone if protected with traffic barrier

- RETAINING WALLS
  - Designed in accordance with Department and AASHTO specifications
  - Modular Block, Bin Walls, Gabion Walls or Pre-Fabricated Modular Walls Not Allowed
  - Extensible Ground Reinforcement Not Allowed
  - MSE Walls
    - Designed for service life of 75 years
    - 100 years if part of bridge abutment
    - Coping required
    - Rectangular face panels required

- RETAINING WALLS AT BRIDGES
  - Protect with traffic barriers if inside clear zone
  - Designed for Stage II lane width
  - Wall shall be located 6" min. from Stage II shoulder barrier
  - Designed to accommodate future loadings from Stage II lanes & embankment
  - Ground reinforcement lengths designed to accommodate future stage II wall height

- REMOVAL OF EXISTING STRUCTURES
  - Buildings:
    - Three Parcels: 21A, 22, & 23
    - Four Structures: 2 houses, 1 barn, 1 shed
  - Bridges:
    - Existing reinforced concrete bridge on SR 68 over Barn Branch Creek
    - Existing bridge on Wheatonville Rd over an unnamed tributary (east of I-69)

- Clearing Right-of-Way
  - No Clearing in the following locations (as shown on plans):
    - SE Quad of SR 68 Interchange
    - From Sta 1519+90 to 1521+30 Rt
    - From Sta 1544+15 to 1552+00 Rt
  - No Tree Clearing between April 15 to the following September 15
  - Some tree clearing by the demolition contract IR- 30299-A

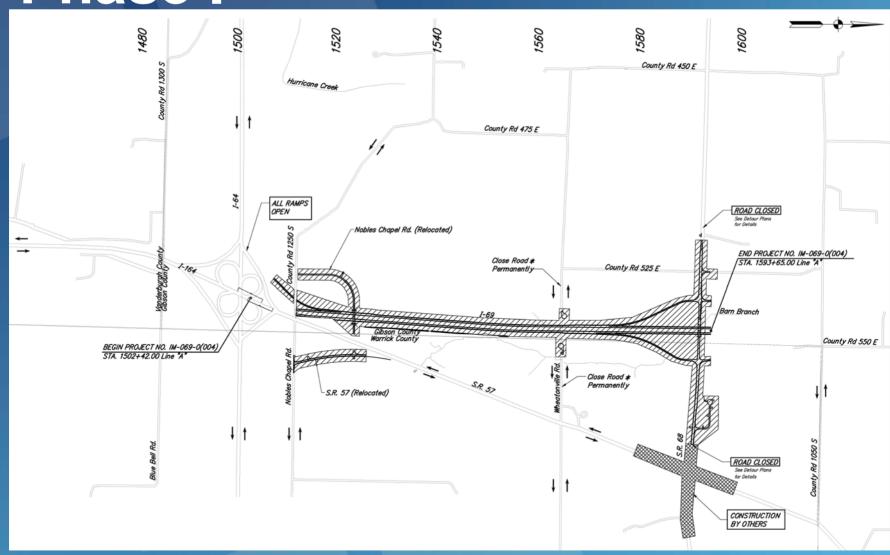
- DRAINAGE
  - Existing drainage patterns to be maintained
  - Existing structures remain in place shall be cleaned
  - Structures No. 2, 3 & 5
    - Designed and Approved
  - All other structures shall be designed to extend beyond Clear Zone (No guardrail allowed)

- DRAINAGE (Cont'd)
  - Structure No 2, 3, & 5:
    - Three-sided structures:
      - 1' sump depth and 2' riprap for scour protection
    - Alternate four-sided structures allowed:
      - Sump depth is 20% of the required hydraulic opening height

- ENVIRONMENTAL
  - Project includes Stream Realignment and Impacts to Wetlands
    - Permits have been filed
    - Any revision will require approval from corresponding regulatory agency
  - 404 Permit shall be received after letting
  - 401 Permit
    - See Item No. 16 for Cofferdam and temporary crossings reference
  - Environmental Awareness Training
    - Mandatory training for design/builders (engineering supervisors, equipment operators, construction personnel)
  - Summary of Commitments in the Contract Documents
    - Required to follow

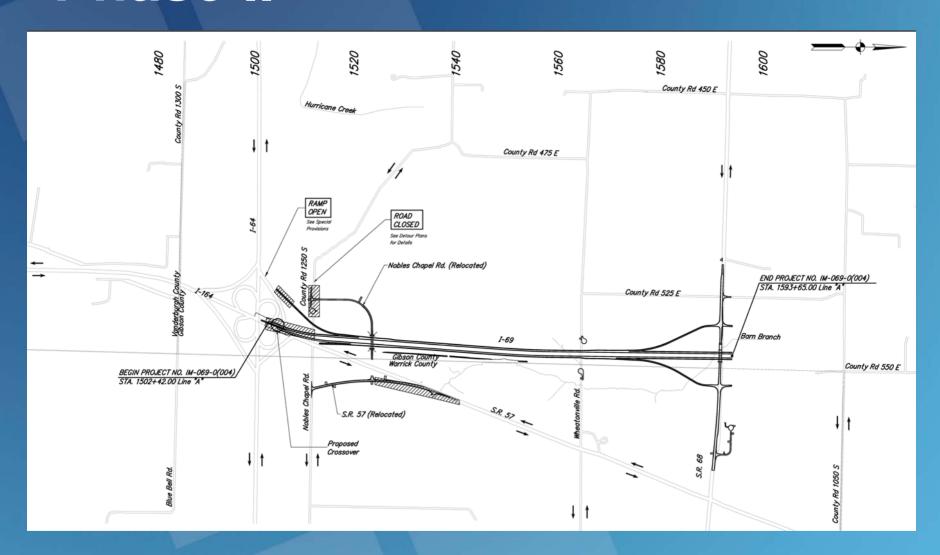
- MAINTENANCE OF TRAFFIC
  - Follow "Sequence of Operations" in Special Provision
    - Four Phases
    - Road Closures: SR 68 (Phase I) / Ramps (Phase II & III)
    - Detour Routes: Combination of US 41 / I-64 / SR 68
  - SR57/I-69 Construction Zone
    - Design Speed: 55 mph
    - Posted Speed: 45 mph
  - Lane taper rates shall be 60:1
  - Drainage to be maintained

# Phase I

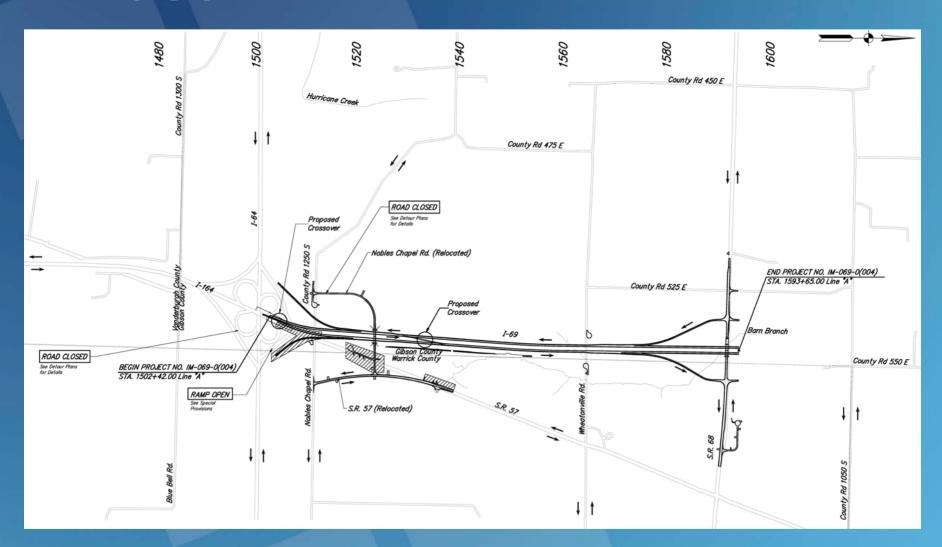


- MAINTENANCE OF TRAFFIC (Cont'd)
  - Coordination with Intersection Project
    - SR 57 at SR 68
  - Wheatonville Road shall remain open while SR 68 is closed for construction

# Phase II



# Phase III



- TRAFFIC MANAGEMENT PLAN
  - Preferred plan for accommodating traffic during I-69 construction (provided to successful bidder)
    - Maintenance of Traffic Phasing
    - Ramp Closures
    - Final Traffic Control Plan
    - INDOT Detour Routes
  - Required for duration of contract

- SIGNING
  - Latest Version of MUTCD, 2003
  - Constant cross section single arm cantilever sign structure not allowed
  - Special design for box truss and overhead cantilever sign structure approved by the Department

- ITS
  - Two 4" Poly Duct and handholes required
  - Shall be installed along west Right-of-Way line

- LIGHTING
  - Conventional lighting required
    - Along I-69 and SR68 Interchange Ramps
  - No high mast towers
  - Lumitrak sign lighting systems
  - Maintain existing roadway lighting during construction

- SPECIAL PROVISION HIGHLIGHTS
  - I-69 Corridor Design Criteria & Clear Zone Values
    - Follow project specific criteria and values
  - Coordination with adjacent project
    - SR 57 at SR 68
  - No Tree Clearing from April 15 to September 15
    - Impact to Indiana bat, Myotis Sodalis
  - Mandatory Environmental Awareness Training required
  - Excess Suitable Materials
    - Construct future embankment for I-69 north of SR 68

- SPECIAL PROVISION HIGHLIGHTS (Cont'd)
  - Unsuitable Material Removal and Backfill
    - Not mentioned in Geotechnical Evaluation Report
    - Pay Item: Unclassified Excavation (Undistributed)
    - Pay Item: B-Borrow (Undistributed)
  - I-69 Groundbreaking Ceremony
    - Anticipated date in June
    - No site work allowed before Ceremony
  - SR 57 Roadway Condition upon Completion of I-69
    - Relinquish to Warrick County
    - No damage to SR 57 from proposed I-69 construction

- SPECIAL PROVISION HIGHLIGHTS (Cont'd)
  - Disincentive
    - Work before the Ceremony
    - Ramp Opening
  - Pending 404 Permit
    - No work on streams or wetlands under Army Corps jurisdiction until approval

\$30,000 per day

\$3,000 per day

- Utility Relocation
  - Duke Energy & Verizon North
    - Approved relocation plan
    - 45 to 90 days
  - Pike-Gibson Water
    - Relocation plan in progress
    - 60 days
  - Gibson Water
    - Relocation plan in progress
    - 60 90 days
  - Vectren Energy Delivery (Gas)
    - Relocation plan in progress
    - 90 days
  - Vectren Energy Delivery (Electric)
    - Relocation plan in progress
    - 90 120 days

- Right-of-Way Update
  - 1 Parcel in condemnation (Parcel No. 6)
  - 1 Parcel is not secured

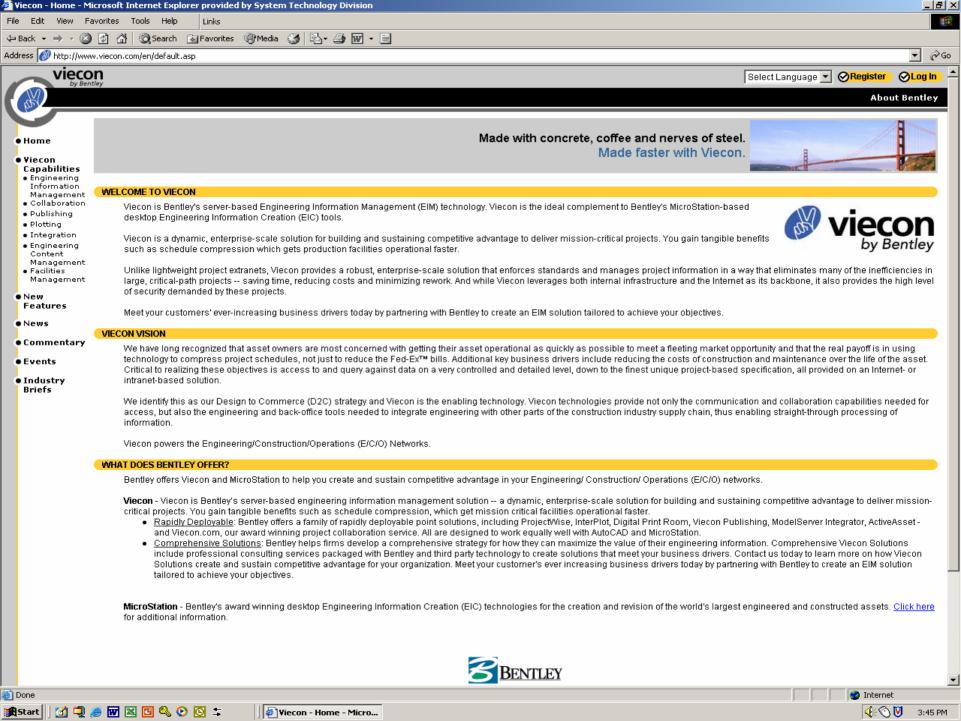
- ADDENDUM No. 1
  - Survey Book will be completed in the next two weeks
  - Revisions to Signing and Lighting Plans
  - Minor revisions to Road Plans / Scope of Services / Special Provisions
  - To include addendum to the Geotechnical Report for retaining wall near cell tower

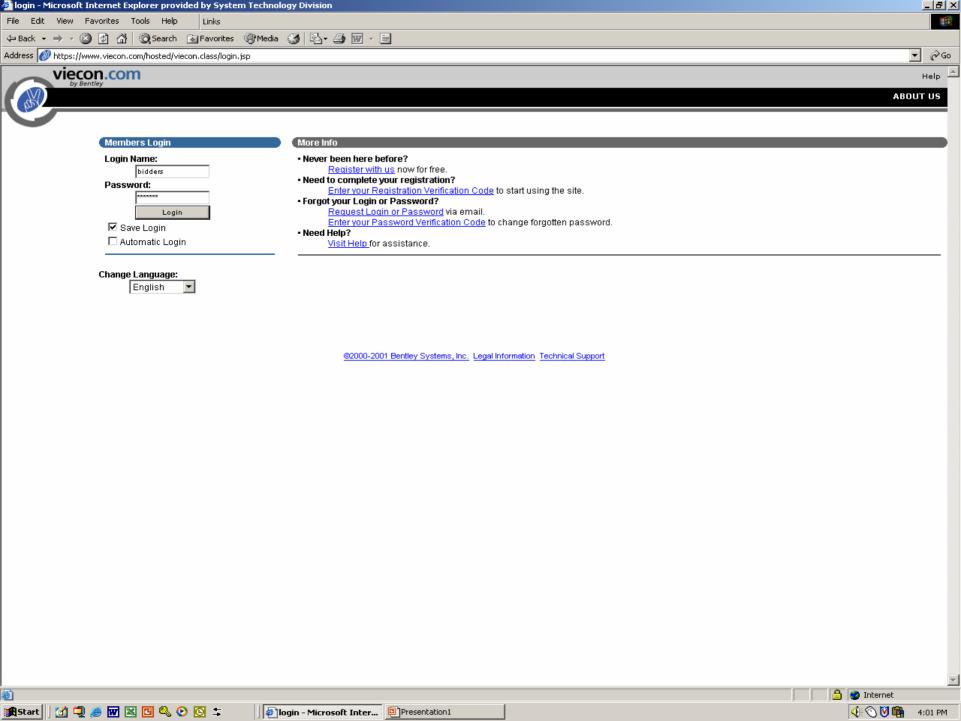
# **Pre-Bid Viecon Information**

- WWW.VIECON.COM
- LOG IN
- CLICK ON PROJECT NAME
- LOGIN NAME AND PASSWORD
- "bidders"

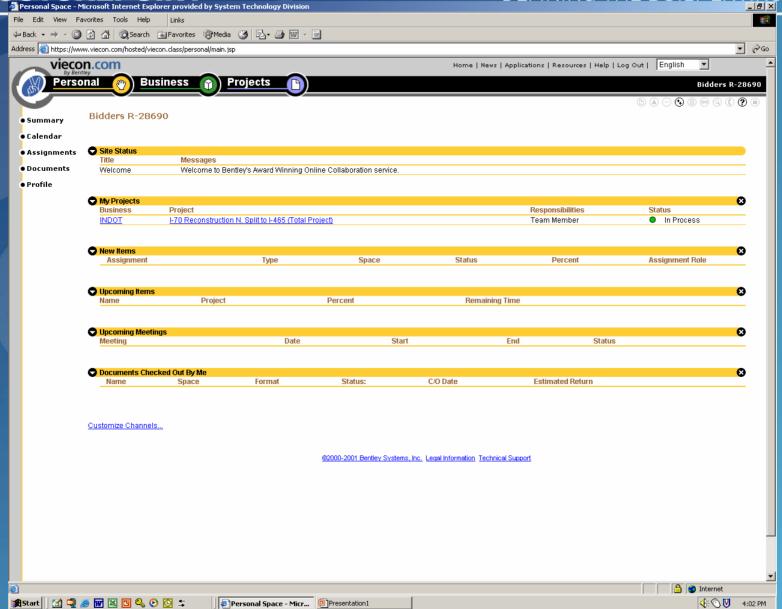
## **Pre-Bid Viecon Information**

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- RIGHT CLICK ON FILE NAME "SAVE TARGET AS"
- USE FOLDER NAMES ABOVE FILE LIST TO NAVIGATE, DO NOT USE "BACK BUTTON"





#### DEFINING THE BUILT ENVIRONMENT



#### DEFINING THE BUILT ENVIRONMENT

